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Anti-Connexin 43/GJA1 Antibody Picoband®

Catalog Number: PA1026

About GJA1

Connexins 43 (Cx43), also called GAP Junction Protein, alpha-1 (GJA1). Connexin 43 is a member of the connexin gene family which abundantly expressed in the heart and liver and was mapped to 6q21-q23.2. Connexin43, the major protein of gap junctions in the heart, is targeted by several protein kinases that regulate myocardial cell-cell coupling. Mutations in the connexin43 gap-junction gene, which lead to abnormally regulated cell-cell communication, are associated with visceroatrial heterotaxia. Cx43 must also play a critical role in the physiology of hearing, presumably by participating in the recycling of potassium to the cochlear endolymph.

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Overview

Product Name	Anti-Connexin 43/GJA1 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Connexin 43/GJA1 Antibody catalog # PA1026. Tested in IF, IHC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	IF, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Storage Instructions	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P17302

Technical Details

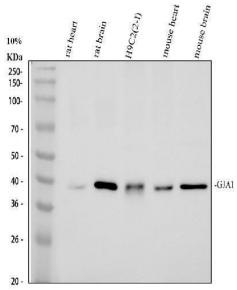
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Connexin 43, identical to the related rat and mouse sequences.

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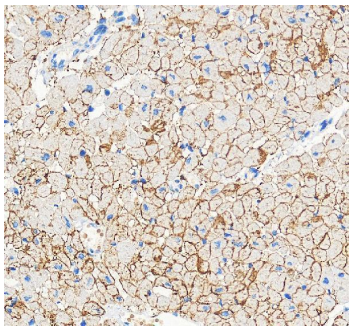
Recommended Detection Systems	Boster recommends ECL Plus Western Blotting Substrate (Catalog # AR1196-200) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Immunofluorescence, 2ug/ml, Rat Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human, Mouse, Rat Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat

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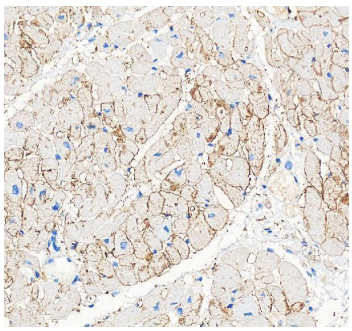
Anti-Connexin 43/GJA1 Antibody Picoband® (PA1026) Images



Western blot analysis of GJA1 using anti-GJA1 antibody (PA1026). Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: rat heart tissue lysates, Lane 2: rat brain tissue lysates, Lane 3: rat H9C2 cells whole cell lysates, Lane 4: mouse heart tissue lysates, Lane 5: mouse brain tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-GJA1 antigen affinity purified polyclonal antibody (PA1026) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an ECL Plus Western Blotting Substrate (Catalog # AR1196-200) with Tanon 5200 system. A specific band was detected for GJA1 at approximately 43 kDa. The expected band size for GJA1 is at 43 kDa.



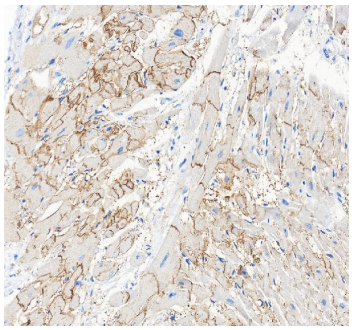
IHC analysis of GJA1 using anti-GJA1 antibody (PA1026). GJA1 was detected in a paraffin-embedded section of human heart tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-GJA1 Antibody (PA1026) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



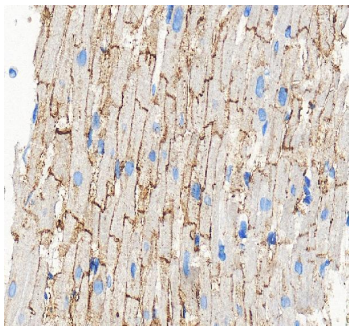
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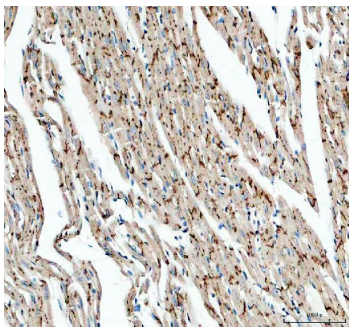
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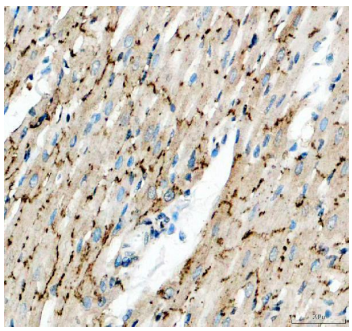
Antibody (PA1026) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



IHC analysis of GJA1 using anti-GJA1 antibody (PA1026). GJA1 was detected in a paraffin-embedded section of human heart tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-GJA1 Antibody (PA1026) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



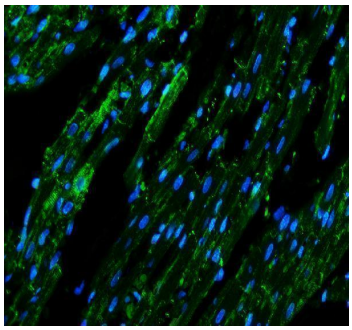
IHC analysis of GJA1 using anti-GJA1 antibody (PA1026). GJA1 was detected in a paraffin-embedded section of rat heart tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-GJA1 Antibody (PA1026) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



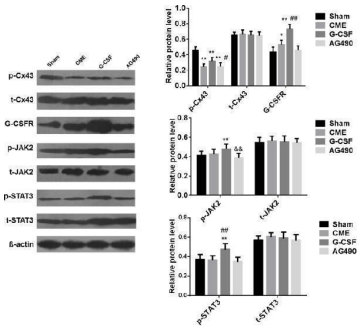
IHC analysis of GJA1 using anti-GJA1 antibody (PA1026). GJA1 was detected in a paraffin-embedded section of rat heart tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-GJA1 Antibody (PA1026) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

IF analysis of GJA1 using anti-GJA1 antibody (PA1026). GJA1 was detected in a paraffin-embedded section of rat heart tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 5 ug/mL rabbit anti-GJA1 Antibody (PA1026) overnight at 4°C. Fluoro488 Conjugated Goat Anti-Rabbit IgG (BA1127) was used as secondary

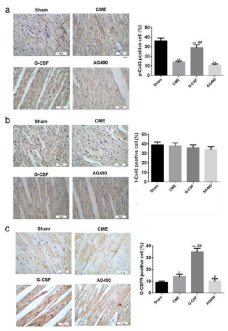
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antibody at 1:500 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Expression levels of the p-Cx43, t-Cx43, G-CSFR, p-JAK2, t-JAK2, p-STAT3, and t-STAT3 proteins in rabbit myocardium from each group. The expression levels of each protein were determined using western blot. Left: representative immunoblots showing the expression of the various proteins in each group. Right: quantification of the protein bands. Data are shown as means ± standard deviations (n = 10/group, except n = 9 in the AG490 group). * P < 0.05, ** P < 0.01 vs. Sham group; # P < 0.05, ## P < 0.01 vs. CME group; && P < 0.01 vs. G-CSF group (one-way ANOVA with LSD post-hoc test) Index in PubMed under a CC BY license. PMID: 32066388



Expressions of p-Cx43, t-Cx43, and G-CSFR proteins in rabbit myocardium from each group. The expression levels of each protein were determined using immunohistochemistry. Positive staining is shown in brown; the nuclei are stained blue-black. a p-Cx43. b t-Cx43. c G-CSFR. Quantification of expression was performed under high magnification (400×). The black arrows indicate representative enriched areas, but not all areas are indicated by arrows in the images. Data are shown as means ± standard deviations (n = 10/group, except n = 9 in the AG490 group). * P < 0.05, ** P < 0.01 vs. Sham group; # P < 0.05, ## P < 0.01 vs. CME group (one-way ANOVA with LSD post-hoc test) Index in PubMed under a CC BY license. PMID: 32066388

12 Publications Citing This Product

1. PubMed ID: 32343674, Liu Y,Bai H,Guo F,Thai PN,Luo X,Zhang P,Yang C,Feng X,Zhu D,Guo J,Liang P,Xu Z,Yang H,Lu X.PGC-1alpha activator ZLN005 promotes maturation of cardiomyocytes derived from human embryonic stem cells.Aging (Albany NY).2020 Apr 28;12(8):7411-7430.doi:10.18632/agi

2. PubMed ID: 20167215, Peng Hj, Dai Dz, Ji H, Dai Y. Eur J Pharmacol. 2010 May 25;634(1-3):101-6. Doi: 10.1016/J.Ejphar.2010.02.001. Epub 2010 Feb 16. The Separate Roles Of Endothelin Receptors Participate In Remodeling Of Matrix Metalloproteinase And Connexin 43 Of Car...

3. PubMed ID: 24992449, Zhang X, Gao Y, Dong J, Wang S, Yao B, Zhang J, Hu S, Xu X, Zuo H, Wang L, Zhou H, Zhao L, Peng R. Plos One. 2014 Jul 3;9(7):E101532. Doi: 10.1371/Journal.Pone.0101532. Ecollection 2014. The Compound Chinese Medicine "Kang Fu Ling" Protects Agains...

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